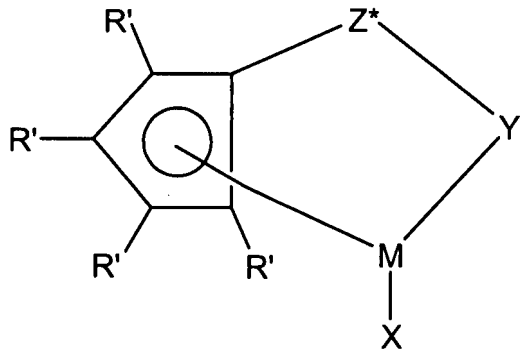
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A supported catalyst system suitable for the polymerisation of olefins comprising

(a) a metallocene represented by the general formula:



wherein:

R' each occurrence is independently selected from hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 nonhydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is a neutral η^4 bonded diene group having up to 30 non-hydrogen atoms, which forms a π-complex with M;

Y is -O-, -S-, -NR*-, -PR*-,

M is titanium or zirconium in the + 2 formal oxidation state;

Z^* is SiR^*_2, CR^*_2, $SiR^*_2SiR^*_2$, $CR^*_2CR^*_2$, $CR^*=CR^*$, $CR^*_2SiR^*_2$, or GeR^*_2, wherein:

R^* each occurrence is independently hydrogen, or a member selected from hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said R^* having up to 10 non-hydrogen atoms, and optionally, two R^* groups from Z^* (when R^* is not hydrogen), or an R^* group from Z^* and an R^* group from Y form a ring system,

(b) an activator ~~comprising~~

~~(i) an aluminoxane or~~

~~(ii) a Group IIIA (CAS Version) metal or metalloid compound~~ represented by the formula:

$(L^*\text{-}H)^+_d (A^{d-})$

wherein

L^* is a neutral Lewis base

$(L^*\text{-}H)^+_d$ is a Bronsted acid

A^{d-} is a non-coordinating compatible anion of a Group IIIA (CAS Version) metal or metalloid having a charge of d^-, and

d is an integer from 1 to 3, and

(c) a support material comprising an inorganic metal oxide, inorganic metal halide or polymeric material or mixtures thereof,

wherein the support material has been pretreated with a source of a transition metal atom before the support material is contacted with (a) and with (b).

2. (Original) A supported catalyst system according to claim 1 wherein the support material is silica.

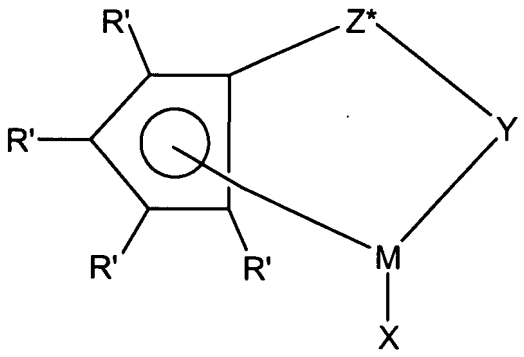
3-6. (Cancelled).

7. (Currently amended) A supported catalyst system according to claim **[[6]]** 1 wherein the activator comprises a cation and an anion wherein the anion has at least one substituent comprising a moiety having an active hydrogen.

8-9. (Cancelled).

10. (Currently amended) A supported catalyst system for the polymerisation of olefins comprising

(a) a metallocene represented by the general formula:



wherein:

R' each occurrence is independently selected from hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 nonhydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is a neutral η^4 bonded diene group having up to 30 non-hydrogen atoms, which forms a π-complex with M;

Y is -O-, -S-, -NR*-, -PR*-,

M is titanium or zirconium in the + 2 formal oxidation state;

Z* is SiR^*_2, CR^*_2, $SiR^*_2SiR^*_2$, $CR^*_2CR^*_2$, CR*=CR*, $CR^*_2SiR^*_2$, or

GeR^*_2, wherein:

R* each occurrence is independently hydrogen, or a member selected from hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said R* having up to 10 non-hydrogen atoms, and optionally, two R* groups from Z* (when R* is not hydrogen), or an R* group from Z* and an R* group from Y form a ring system,

(b) a cocatalyst comprising an organometallic compound, and

(c) a support material comprising an inorganic metal oxide, inorganic metal halide or polymeric material or mixtures thereof,

wherein the support material has been pretreated with a ~~source of a~~ transition metal [[atom]] salt selected from the group consisting of ferrous sulphate, cupric sulphate and ferrous D-gluconate before the support material is contacted with (a) and with (b).

11. (Currently amended) A supported catalyst system according to claim 1 ~~or 10~~ wherein the source of the transition metal atom is a transition metal salt.

12. (Previously presented) A supported catalyst system according to claim 11 wherein the transition metal atom is iron or copper.

13. (Original) A supported catalyst system according to claim 11 wherein the transition metal salt is ferrous sulphate, cupric sulphate or ferrous D-gluconate.

14. (Previously presented) A supported catalyst system according to claim 1 or 10 wherein the transition metal content on the support material is in the range 0.001% to 10 %.

15. (Previously presented) A process for the polymerisation of olefin monomers selected from the group consisting of (a) ethylene, (b) propylene, (c) mixtures of ethylene and propylene and (d) mixtures of (a), (b) or (c) with one or more other alpha-olefins, comprising performing said polymerisation process under polymerisation conditions in the presence of a supported catalyst system according to claim 1 or 10.

16. (Previously presented) A process for the polymerisation of ethylene or the copolymerisation of ethylene and alpha-olefins having from 3 to 10 carbon atoms, comprising performing said polymerisation process under polymerisation conditions in the presence of a supported catalyst system according to claim 1 or 10.

17. (Previously presented) A process according to claim 15 wherein the alpha-olefins are selected from the group consisting of 1-butene, 1-hexene, 4-methyl-1-pentene and 1-octene.

18. (Previously presented) A process according to claim 15 carried out in the gas phase.

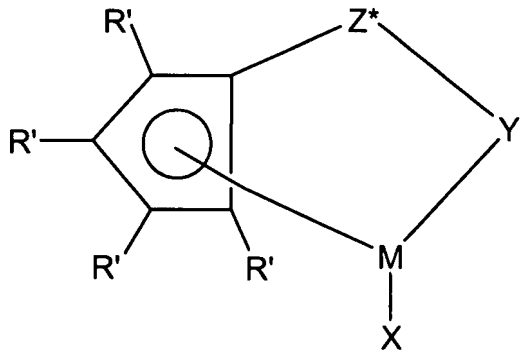
19. (Previously presented) A process according to claim 16 wherein the alpha-olefins are selected from the group consisting of 1-butene, 1-hexene, 4-methyl-1-pentene and 1-octene.

20. (Previously presented) A process according to claim 16 carried out in the gas phase.

21-34. (Cancelled).

35. (New) A supported catalyst system suitable for the polymerisation of olefins comprising

(a) a metallocene represented by the general formula:



wherein:

R' each occurrence is independently selected from hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 nonhydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is a neutral η^4 bonded diene group having up to 30 non-hydrogen atoms, which forms a π-complex with M;

Y is -O-, -S-, -NR*-, -PR*-,

M is titanium or zirconium in the + 2 formal oxidation state;

Z* is SiR^*_2, CR^*_2, $SiR^*_2SiR^*_2$, $CR^*_2CR^*_2$, $CR^*{=}CR^*$, $CR^*_2SiR^*_2$, or

GeR^*_2, wherein:

R* each occurrence is independently hydrogen, or a member selected from hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said R* having up to 10 non-hydrogen atoms, and optionally, two R* groups from Z* (when R* is not hydrogen), or an R* group from Z* and an R* group from Y form a ring system,

(b) an activator comprising a fluorine containing Group IIIA metal or metalloid compound, and

(c) a support material comprising an inorganic metal oxide, inorganic metal halide or polymeric material or mixtures thereof,

wherein the support material has been pretreated with a source of a transition metal atom before the support material is contacted with (a) and with (b).

36. (New) A supported catalyst system according to claim 35 wherein the support material is silica.

37. (New) A supported catalyst system according to claim 35 wherein the source of the transition metal atom is a transition metal salt.

38. (New) A supported catalyst system according to claim 37 wherein the transition metal atom is iron or copper.

39. (New) A supported catalyst system according to claim 37 wherein the transition metal salt is ferrous sulphate, cupric sulphate or ferrous D-gluconate.

40. (New) A supported catalyst system according to claim 35 wherein the transition metal content on the support material is in the range 0.001% to 10 %.

41. (New) A process for the polymerisation of olefin monomers selected from the group consisting of (a) ethylene, (b) propylene, (c) mixtures of ethylene and propylene and (d) mixtures of (a), (b) or (c) with one or more other alpha-olefins, comprising performing said polymerisation process under polymerisation conditions in the presence of a supported catalyst system according to claim 35.

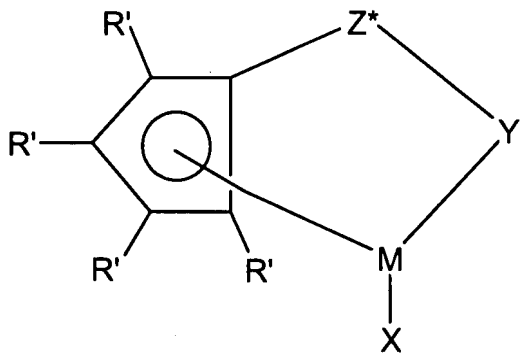
42. (New) A process for the polymerisation of ethylene or the copolymerisation of ethylene and alpha-olefins having from 3 to 10 carbon atoms, comprising performing said polymerisation process under polymerisation conditions in the presence of a supported catalyst system according to claim 35.

43. (New) A process according to claim 41 or 42 wherein the alpha-olefins are selected from the group consisting of 1-butene, 1-hexene, 4-methyl-1-pentene and 1-octene.

44. (New) A process according to claim 41 or 42 carried out in the gas phase.

45. (New) A supported catalyst system suitable for the polymerisation of olefins comprising

(a) a metallocene represented by the general formula:



wherein:

R' each occurrence is independently selected from hydrogen, hydrocarbyl, silyl, germyl, halo, cyano, and combinations thereof, said R' having up to 20 nonhydrogen atoms, and optionally, two R' groups (where R' is not hydrogen, halo or cyano) together form a divalent derivative thereof connected to adjacent positions of the cyclopentadienyl ring to form a fused ring structure;

X is a neutral η^4 bonded diene group having up to 30 non-hydrogen atoms, which forms a π-complex with M;

Y is -O-, -S-, -NR*-, -PR*-,

M is titanium or zirconium in the + 2 formal oxidation state;

Z* is SiR^*_2, CR^*_2, $SiR^*_2SiR^*_2$, $CR^*_2CR^*_2$, $CR^*{=}CR^*$, $CR^*_2SiR^*_2$, or

GeR^*_2, wherein:

R* each occurrence is independently hydrogen, or a member selected from hydrocarbyl, silyl, halogenated alkyl, halogenated aryl, and combinations thereof, said R* having up to 10 non-hydrogen atoms, and optionally, two R* groups from Z* (when R* is not hydrogen), or an R* group from Z* and an R* group from Y form a ring system,

(b) an activator comprising a boron compound, and

(c) a support material comprising an inorganic metal oxide, inorganic metal halide or polymeric material or mixtures thereof,

wherein the support material has been pretreated with a source of a transition metal atom before the support material is contacted with (a) and with (b).

46. (New) A supported catalyst system according to claim 45 wherein the support material is silica.

47. (New) A supported catalyst system according to claim 46 wherein the source of the transition metal atom is a transition metal salt.

48. (New) A supported catalyst system according to claim 47 wherein the transition metal atom is iron or copper.

49. (New) A supported catalyst system according to claim 47 wherein the transition metal salt is ferrous sulphate, cupric sulphate or ferrous D-gluconate.

50. (New) A supported catalyst system according to claim 46 wherein the transition metal content on the support material is in the range 0.001% to 10 %.

51. (New) A process for the polymerisation of olefin monomers selected from the group consisting of (a) ethylene, (b) propylene, (c) mixtures of ethylene and propylene and (d) mixtures of (a), (b) or (c) with one or more other alpha-olefins, comprising performing said polymerisation process under polymerisation conditions in the presence of a supported catalyst system according to claim 46.

52. (New) A process for the polymerisation of ethylene or the copolymerisation of ethylene and alpha-olefins having from 3 to 10 carbon atoms, comprising performing said polymerisation process under polymerisation conditions in the presence of a supported catalyst system according to claim 46.

53. (New) A process according to claim 51 or 52 wherein the alpha-olefins are selected from the group consisting of 1-butene, 1-hexene, 4-methyl-1-pentene and 1-octene.

54. (New) A process according to claim 51 or 52 carried out in the gas phase.